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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,105	04/18/2001	Hajime Kimura	SEL 253	9007

7590

09/16/2005

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SUITE 2850
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CHICAGO, IL 60606

EXAMINER

DONG, DALEI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	09/837,105	KIMURA, HAJIME	
	Examiner	Art Unit	
	Dalei Dong	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-76, 78 and 79 is/are pending in the application.
- 4a) Of the above claim(s) 2-55 and 65-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 56-64, 78 and 79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 6, 2005 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 56, 59-62 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi.

Regarding to claim 56, Abe discloses in Figure 1, a light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed

Art Unit: 2879

formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12).

However, Abe does not disclose an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees.

Ooi teaches in Figures 1, 2 and 5-7, a light scattering element having an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees (see column 6, lines 41 to column 7, line 6) for the purpose of obtaining desired transmittance-reflection characteristics, contrast ratio and viewing angle characteristics.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi for the light scattering body of Abe in order to obtaining desired transmittance-reflection characteristics, contrast ratio and viewing angle characteristics.

Regarding to claim 59, Abe discloses in Figure 1, the first electrode (2) comprises a transparent material (see column 4, lines 50-57), and the second electrode (6) comprises a light shielding material (see column 5, lines 28-33).

Regarding to claim 60, Abe discloses in Figure 1, the light-scattering body comprises a transparent material (see column 4, lines 9-16).

Regarding to claim 61, Abe discloses in Figure 1, the light-scattering body comprises one selected from the group consisting of polycarbonate, polyimide, BEB, indium oxide, and tin oxide (see column 4, lines 9-16).

Regarding to claim 62, Abe discloses in Figure 1, the thickness (H) of the light-scattering body (50-600 mm) is greater than or equal to a pitch (W1 of 10-400 mm) of the light-scattering body (see column 3, line 66 to column 4, line 8).

Regarding to claim 64, Abe teaches the light emitting device is incorporated into one of selected from the group consisting of an EL display, a video camera, and a computer. Further, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations (see MPEP 2114).

4. Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi and in further view of U.S. Patent No. 5,920,080 to Jones.

Regarding to claim 57, Abe in view of Ooi discloses, a light emitting display device comprising a substrate; a first electrode formed over a first surface of the substrate; an EL layer formed on the first electrode; a second electrode formed on the EL layer; and a light scattering body formed over a second surface of the substrate which is

opposite to the first surface, wherein an angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees.

However, Abe and Ooi does not disclose the first electrode is electrically connected to a thin film transistor.

The Jones reference teaches in Figure 2, a light emitting device comprising: a thin film transistor formed on the integrated circuit (120) electrically connected to the first electrode (200) via plug (140) for the purpose of providing an active matrix design that maximizes the peak luminance and reduce edge shorting of the light emitting device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi and the thin film transistor of Jones for the electroluminescent device of Abe in order to provide an active matrix design that maximizes the peak luminance and reduces edge shorting of the light emitting device.

Regarding to claim 58, Jones teaches in Figure 3, the first electrode (200) is an anode and the second electrode (250) is a cathode, and the motivation to combine is the same as above.

5. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi and in further view of U.S. Patent No. 6,147,451 to Shibata.

Regarding to claim 63, Abe in view of Ooi discloses, a light emitting display device comprising a substrate; a first electrode formed over a first surface of the substrate; an EL layer formed on the first electrode; a second electrode formed on the EL layer; and a light scattering body formed over a second surface of the substrate which is opposite to the first surface, wherein an angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees.

However, Abe and Ooi does not disclose a pixel pitch is at least twice as long as a pitch of the light scattering body.

The Shibata reference teaches in Figures 2-5, a light emitting device comprising: a pixel pitch is at least twice as long as a pitch of the light scattering body for the purpose of providing clear and high luminescent device while improve the resolution of the light emitting device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi for the electroluminescent device of Abe in the pixel array of Shibata in order to provide clear and high luminescent device while improve the resolution of the light-emitting device.

6. Claims 78 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,206,746 to Ooi and in further view of U.S. Patent No. 6,777,871 to Duggal.

Regarding to claim 78, Abe discloses in Figure 1, a self-light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12), wherein an angle between the light scattering body (plurality of prisms) and the second surface (11) is not less than 60 degrees and is less than 180 degrees (see column 3, lines 60-65).

However, Abe does not disclose an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees and the light scattering body is made of a different material from the substrate.

Ooi teaches in Figures 1, 2 and 5-7, a light scattering element having an inner angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees (see column 6, lines 41- to column 7, line 6) for the purpose of obtaining desired transmittance-reflection characteristics, contrast ratio and viewing angle characteristics.

However, Ooi does not disclose the light scattering body is made of a different material from the substrate.

The Duggal reference teaches in Figures 1-3, a light emitting device comprising: a light scattering body (3) is made of a different material from that of the substrate (see column 6, lines 14-30) for the purpose of improving the external quantum efficiency of the light emitting device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering prism of Ooi with different material from that of the substrate of Duggal for the self-light emitting display device of Abe in order to obtain desired transmittance-reflection characteristics, contrast ratio and viewing angle characteristics and improve the external quantum efficiency of the light emitting device.

Regarding to claim 79, Abe discloses in Figure 1, wherein the first electrode (2) comprises a transparent material, and the second electrode comprises a light shielding material.

Response to Arguments

7. Applicant's arguments with respect to claims 56-64, 78 and 79 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a light emitting device.

Art Unit: 2879

U.S. Patent No. 5,608,286 to Levine.

U.S. Patent no. 5,637,958 to Levine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

September 8, 2005



Joseph Williams
Primary Examiner
Art Unit 2879